

ICT
NAND Gate Implementations
the “Universal” Gate
Homework 0

Draw the NAND gate implementations of the following gates:

1) \bar{A} (NOT)

2) AB (AND)

3) $A + B$ (OR)

4) $\overline{A + B}$ (NOR)

5) $A \oplus B$ (XOR)

6) $\overline{A \oplus B}$ (XNOR)

Draw the following boolean expressions using only NAND gates
(circle any possible simplifications in your drawings):

1) $\overline{AB + C}$

2) $X \oplus Y\overline{WZ}$

3) $\overline{D + E} \overline{G} \oplus E$

4) $\overline{A + BC \oplus D}$